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ePoster Viewing

Fungal disease epidemiology & clinical trials

Estimation of serious fungal disease burden in Malaysia

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Background: Fungal infection accounts for significant rates of morbidity and mortality; however, there is paucity of systematic data on the incidence and prevalence of human mycoses in Malaysia. Here, we estimated the burden of serious human fungal infections in Malaysia for the first time.

Material/methods: We found no existing data and so estimated the incidence and prevalence of fungal diseases based on the populations at risk. HIV data were derived from UNAIDS (2012) report and the 2013 WHO TB report. COPD and asthma data were derived from Lim et al (2015) and To et al, (2012) respectively. Pneumocystis and histoplasmosis data were from Ratanasuwan (2005) and Lian (2007) respectively, and *T. marneffeii* from Vietnam data.

Results: The population of Malaysia is ~ 30,651,000; 29% are children, and 8% female are >60 years. Individuals living with HIV/AIDS are 82,000 as of 2012, of whom 35,000 with CD4 counts <350 are not on therapy. Recurrent vaginal candidiasis (>4 episodes/year) was common (n=501,138). Oesophageal candidiasis (n=5,850) was the predominant fungal infection among individuals with HIV. In subjects with HIV/AIDS, cryptococcal meningitis was estimated in 700 and *P. jirovecii* pneumonitis (PCP) in 1296, disseminated histoplasmosis in 175 and *T. marneffeii* infection in 350 subjects. Candidemia (n=1,533) cases were estimated using a 5/100,000 population rate. Among the estimated 1.2 million adults with asthma, allergic bronchopulmonary aspergillosis (ABPA) was estimated as in 30,062 and severe asthma with fungal sensitisation in 39,682. Among 18,932 pulmonary TB survivors in 2013, chronic pulmonary aspergillosis was estimated in 833, and a prevalence of 2,624, perhaps 50% of the total. Invasive aspergillosis was estimated in 1,018 cases notably in ICU with COPD, as well as acute leukaemia.

Conclusions: The present study indicates that at least 619,388 (2%) of the population is affected by a serious fungal infection annually. This problem is serious enough to warrant the first epidemiological studies of fungal disease in Malaysia.

Table : Estimated cases per year of more frequent serious fungal diseases in Malaysia

Infection	Number of infections per underlying disorder per year					Total burden	Rate /100K
	None	HIV/AIDS	Respiratory	Cancer/Tx	ICU		
Oesophageal candidiasis	-	5,850	-	-	-	5,850	19

Candidaemia	-	-	-	1,073	460	1,533	5
Recurrent vaginal candidiasis (4x/year +)	501,138	-	-	-	-	501,138	4,800*
ABPA	-	-	30,062	-	-	30,062	98
SAFS	-	-	39,682			39,682	130
Chronic pulmonary aspergillosis	-	-	5,249	-	-	5,249	17
Invasive aspergillosis	-	-		184	834	1,018	3.3
Cryptococcal meningitis	-	700	-	-	-	700	2.8
Pneumocystis pneumonia	-	1,286	-	-	-	1286	4.2
Histoplasmosis		175				175	0.6
<i>T. marneffe</i> infection		350				350	1.1
Fungal keratitis	400					400	1.3
Total burden estimated	501,583	8,361	75,826	1,365	1,524		